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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Markku Leskela

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KUBOVCIK & KUBOVCIK

SUITE 1105

1215 SOUTH CLARK STREET

ARLINGTON, VA 22202

EXAMINER

CORDRAY, DENNIS R

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/532,481	Applicant(s) LESKELA ET AL.	
	Examiner DENNIS CORDRAY	Art Unit 1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☒ Claim(s) 4 and 12 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 April 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>4/22/2005</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Objections

Claims 4 and 12 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

Claim 4 recites “average thickness is 0.1 – 10 μm . Claim 4 depends from Claim 3, which recites “an average thickness is less than 5 μm ,” and expands rather than further limits the parent claim.

Claim 12 recites a maximum grammage of approximately 80 g/m^2 , which reads on values slightly greater than 80 g/m^2 . Claim 12 depends from Claim 1, which recites a grammage of 80 g/m^2 at most, and expands rather than further limits the parent claim.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 2, 9 and 13-15 recite the limitation "surface layers" in Claim 1. There is insufficient antecedent basis for this limitation in the claims as Claim 1 recites "the surface layer."

Claims 14 and 15 recite the limitation "the middle layer (layers)" in Claim 1. There is insufficient antecedent basis for this limitation in the claim, which only recites a bottom layer and a surface layer.

Claim 1 recites "the layers are formed using multilayer technology." It is not clear what is meant by the term. Layers are added to substrates in various fields by coating, extruding, laminating, chemical reaction on a surface, simultaneous formation of layers as in a headbox, vapor deposition, precipitation, printing, electrostatic deposition and many other processes, all of which can be called multilayer technology.

Claims 1 and 13 recite "the surface layer." It is not clear what is meant by "the surface layer" because the multilayer fiber product has two surfaces, therefore can have two surface layers.

Claim Claims 2, 9 and 13-15 recite "surface layer/layers" or "surface layers." The meaning of the phrases is not clear. The use of the singular form is indefinite

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because the multilayer fiber product has two surfaces, therefore can have two surface layers. Regarding the plural form, does the phrase refer to the bottom and top layer, are two surface layers applied one atop the other over a bottom layer, or are other surface layers intended?

Claim 8 recites “the grammage of one surface layer,” but depends from Claim 1, which recites “the surface layer.” The claim is indefinite because it implies the existence of other surface layers.

Claim 13 recites “a mechanical pulp, which is rougher than that used for forming the surface layer.” It is not clear what is intended by a rougher mechanical pulp. Does the rougher pulp have a lower degree of refining and/or a different freeness from the pulp used in the surface layer? Are there aggregates of fibers or other material that make the pulp rougher? Is a different kind of cellulosic fiber used that is rougher?

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3-12, 14 and 15 are rejected under 35 U.S.C. 102(e) as being anticipated by Silenius et al (US 2004/0168779).

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention “by another,” or by an appropriate showing under 37 CFR 1.131.

Applicant cannot rely upon the foreign priority papers to overcome the rejection

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because a translation of said papers has not been made of record in accordance with 37 CFR 1.55. See MPEP § 201.15.

Claims 1, 7 and 12: Silenius et al ('779) discloses a process for producing a multilayered fibrous product having a grammage of about 50 to 500 g/m², the process comprising fitting on top of a fibrous backing layer a filler-containing fibre layer, which forms the surface of the fibre product and covers the back layer. The top layer is formed from slush of fibre material, to which a product comprising cellulose or lignocellulose fibrils, on which light scattering material particles have been precipitated, is added as a filler (Abs; p 1, pars 1, 3 and 16; p 3, pars 39 and 43; claim 12). The amount of light scattering particles deposited on the filler is from approximately 0.1 to 90% by weight of the amount of filler (p 2, par 31). The filler gives such good retention that no retention agents are needed for the layer (p 3, par 44). A multilayer technology is inherently used in making a multilayer fibrous product. The disclosed grammage overlays the values described for thin base papers, thus the product can be a thin base paper.

Claims 3-4: The filler comprises cellulose or lignocellulose fibrils produced by refining cellulose or mechanical pulp fibers. The fibrils have an average thickness of is less than 5 µm and correspond to a fraction that passes a 100-Mesh screen (thus inherently pass a 50-Mesh screen) or have an average thickness of from 0.1 to 10 µm and an average length from 10 to 1500 µm (p 1, pars 11 and 13; p 2, pars 27-29).

Claims 5-6: The light scattering particles are precipitated in an aqueous phase, and can be calcium carbonate, calcium sulphate, barium sulphate and calcium oxalate (p 1, par 13).

Claim 8: Three layered structures are disclosed (p 3, par 41). The grammage of the top layer can generally be about 20 g/m² (p 3, par 46).

Claims 9 and 14-15: The distribution of weight between the top (surface) layers and back (middle) layers is about 20:80 to 40:60 (p 3, par 44).

Claims 10 and 11: The surface and back layers can be produced from chemical and mechanical pulps (p 3, pars 43 and 46).

Claims 2 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Silenius et al ('779) in view of Begemann et al (EP 0824157, machine translation enclosed and used herein).

Silenius et al ('779) does not disclose forming the multilayered product using the claimed headbox.

Claim 2: Begemann et al discloses a process for forming a multilayer fibrous web, which can be a printing paper comprising surface layers loaded with a filler, using multi-ply technology in the form of a headbox having multiple material suspension feeds (p 1, all). The suspension feeds are separated from one another and combined immediately before the lip of the headbox (p 6, middle pars describing Fig. 8, Fig. 8).

The art of Silenius et al ('779), Begemann et al and the instant invention is analogous as pertaining to making multilayered fibrous webs. Absent convincing evidence of unexpected results, it would have been obvious to one of ordinary skill in

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the art to use the claimed multilayered headbox to form the multilayered product of Silenius et al ('779) in view of Begemann et al as a functionally equivalent method of producing such webs.

Claim 13: The surface layer or layers comprise filler, thus inherently or obviously have a pulp (the highly refined and screened pulp material of the filler) of lesser roughness than the middle layer. Alternatively, Begemann et al discloses using a fibrous suspension with a higher meal degree (more refined) in the surface layers than in the center layer, thus the center layer comprises rougher pulp (p 4, 6th par from bottom). Following the same pattern, it would have been obvious to one of ordinary skill in the art to use a more refined pulp in the surface layer comprising the filler in a two layered product to obtain better retention of the filler.

Claims 1, 4-12 and 16-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Begemann et al in view of Silenius et al (US 2001/0000063) and as evidenced by Peel et al (Paper Science and Paper Manufacture).

Claims 1, 2, 5-7 and 12: Begemann et al discloses a process for forming a multilayer fibrous web, which can be a printing paper comprising surface layers loaded with a filler, using multi-ply technology in the form of a headbox having multiple material suspension feeds (p 1, all). The suspension feeds are separated from one another and combined immediately before the lip of the headbox (p 6, middle pars describing Fig. 8, Fig. 8).

Begemann et al does not disclose the grammage of the paper or the claimed filler. The grammage of coated papers used for printing is typically from about 40 to 150 g/m² (if evidence is needed, see Peel et al, pp 18-19, Table 2.2), thus making a printing paper of the claimed grammage would have been obvious to one of ordinary skill in the art as typically used in the art.

Silenius et al ('063) discloses a filler used in paper manufacture comprising a comprising calcium carbonate aggregates (particles) precipitated from an aqueous solution onto cellulose noil fibrils (Abs; p 2, pars 23, 26 and 27). The mass ratio of calcium carbonate to noil fibrils is from 13.5% to 2700%, which significantly overlays the claimed range of a maximum of 85% (Claim 6). Silenius et al ('063) teaches multiple advantages of using the inventive filler, including higher retention of the calcium carbonate over conventional precipitated calcium carbonate, better optic properties, greater strength, lower grammage and reduced overall paper manufacturing costs over prior art calcium carbonate based fillers (p 1, pars 6-11).

The art of Begemann et al, Silenius et al ('063) and the instant invention is analogous as pertaining to fillers used in printing papers. It would have been obvious to one of ordinary skill in the art to use the claimed filler in the product of Begemann et al view of Silenius et al ('063) to obtain a surface layer having good optical properties, strength and retention and to reduce the costs of paper manufacturing.

Claims 3 and 4: Silenius et al ('063) discloses that the noil fibrils are produced by refining cellulose fibers, have a thickness from 0.1-2 μm , a length from 10-400 μm and have a preferred screened fraction of from P100 -P400, or from 100 to 400 Mesh (p 1,

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par 15; p 2, pars 24, 25 and 27). The fibril dimensions significantly overlap the claimed dimensions. Fibrils passing through a 100 Mesh screen will inherently pass through a 50-Mesh screen.

Claims 8-11 and 14-15: Begemann et al discloses a process of producing a web having at least three layers metered through three nozzles and three control devices (p 6, middle pars describing Fig. 8, Fig. 8). Begemann et al does not disclose the grammage of the separate layers or their respective weight ratios. However, it would at least have been obvious to one of ordinary skill in the art to make the layers of equal grammage as a functionally equivalent option, which produces a paper having the claimed ratios between surface and middle layers and, using the range of typical grammages of printing papers, the claimed grammage of a surface layer. Using mechanical and chemical pulp in the layers would have been obvious as typical furnishes for printing papers (see Peel, Table 2.2).

Claim 13: The surface layer or layers comprise filler, thus inherently or obviously have a pulp (the highly refined and screened pulp material of the filler) of lesser roughness than the middle layer. Alternatively, Begemann et al discloses using a fibrous suspension with a higher meal degree (more refined) in the surface layers than in the center layer, thus the center layer comprises rougher pulp (p 4, 6th par from bottom). Following the same pattern, it would have been obvious to one of ordinary skill in the art to use a more refined pulp in the surface layer comprising the filler in a two layered product to obtain better retention of the filler.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1 and 4 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 12 of copending Application No. 10/475773. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of the copending application and those of the instant invention recite multilayered fibrous products comprising the same filler. The instant claims recite the grammage of a paper, thus are a species of the copending claims. It would have been obvious to one of ordinary skill in the art to make a paper of the claimed grammage using the process of the copending application as a typical grammage used in the art.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. GB-628603 also discloses a multilayered paper comprising a precipitated calcium carbonate filler. The paper of GB-628603 has a higher grammage than that of the instant invention and is made using a multiple cylinder machine.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DENNIS CORDRAY whose telephone number is (571)272-8244. The examiner can normally be reached on M - F, 7:30 -4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Dennis Cordray/
Examiner, Art Unit 1791

/Eric Hug/
Primary Examiner